

## CURRICULUM VITAE

# Ryuki Matsuura

Department of Languages, Cultures & Applied Linguistics | Carnegie Mellon University, U.S.

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(Last updated: 4 Sep. 2024)

## EDUCATION

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|----------------|--|
| 2024 – Current | <b>Ph.D. in Applied Linguistics, Carnegie Mellon University, Japan</b><br>Full funding<br>Supervisor: Rémi Adam van Compernelle  |
| 2022 – 2024    | <b>M.A. in Engineering, Waseda University, Japan</b><br>Supervisor: Tetsuji Ogawa<br>Thesis: <i>Investigating the Relationship between Interference with Comprehensibility and Lexical Errors: Focusing on Discourse Roles</i> |
| 2018 – 2019    | <b>Student Exchange Program, St. Petersburg State University, Russia</b>   |
| 2017 – 2021    | <b>B.A. in Arts in International Liberal Studies, Waseda University, Japan</b><br>Supervisor: Satoshi Inaba<br>Thesis: <i>The Accuracy of Japanese Speech Recognition by CTC and Various Features</i>                          |

## RESEARCH SKILLS

### Disciplinary Knowledge

- Automated Speech Assessment
- L2 Oral Fluency
- Diagnostic Assessment

### Research Method and Statistical Analysis

- Automatic Speech Feature Annotation
- Multilevel Regression / Longitudinal Analysis / Mixed-Effects Modeling
- Multiple Imputation
- Rasch Analysis / IRT
- Speech Data Analysis
- Online Data Collection

### Programming

- Python
- R (Quarto / rmarkdown)
- HTML / CSS / PHP / JavaScript
- AI Frameworks (PyTorch / Hugging Face)
- NLP Frameworks (spaCy / NLTK / stanza / OpenAI API)
- ASR API (rev.ai / Whisper)
- e-learning Frameworks (xAPI / LTI)

#### **Software and Platforms**

- MAXQDA
- Praat
- JASP
- Qualtrics

#### **Languages**

- Japanese (L1)
- Russian (B2 level in CEFR)
- English (TOEFL iBT 100)

### **PUBLICATION**

#### **Articles in Refereed Journals**

Matsuura, R., Suzuki, S., Takizawa, K., Saeki, M., & Matsuyama, Y. (under review).

Arai, Y., Matsuura, R., Eguchi, M., & Suzuki, S. (under review).

Suzuki, S., Takatsu, H., Matsuura, R., Koyama, M., Saeki, M., & Matsuyama, Y. (under review).

#### **Articles in Refereed Conference Proceedings**

Saeki, M., Takatsu, H., Kurata, F., Suzuki, S., Eguchi, M., Matsuura, R., Takizawa, K., Yoshikawa, S., & Matsuyama, Y. (in press). InteLLA: Intelligent Language Learning Assistant for Assessing Language Proficiency Through Interviews and Roleplays. Proceedings of SIGDIAL 2024. SIGDIAL 2024.

Matsuura, R. and Suzuki, S. (2023). Prompt-independent Automated Scoring of L2 Oral Fluency by Capturing Prompt Effects. *Proc. of Artificial Intelligence in Education (AIED)*. doi: [https://doi.org/10.1007/978-3-031-36272-9\\_62](https://doi.org/10.1007/978-3-031-36272-9_62)

Matsuura, R., Suzuki, S., Saeki, M., Ogawa, T. and Matsuyama, Y. (2022). Refinement of Utterance Fluency Feature Extraction and Automated Scoring of L2 Oral Fluency with Dialogic Features. *Proc. of Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*. 1312-1320. doi: 10.23919/APSIPAASC55919.2022.9980148.

#### **Articles in Non-Refereed Journals and Conference Proceedings**

Matsuyama, Y., Saeki, M., Takatsu, H., Matsuura, R., Kurata, F. and Suzuki, S. (2023).

IntelLLA: Dialog-based English speaking assessment agent that elicits learner's language ability. *Journal of ASJ*. 79(3), 162-169. (松山洋一, 佐伯真於, 高津弘明, 松浦瑠希, 倉田楓真, 鈴木駿吾. (2023). 学習者の能力を引き出す言語運用能力判定エージェント IntelLLA の開発と運用. *日本音響学会誌*. 79(3), 162-169.)

Matsuura, R., Suzuki, S., Saeki, M., Fujie, S., Ogawa, T. and Matsuyama, Y. (2022). Automated Scoring of L2 Oral Fluency Using Dialogic Features. *Proc. of Sound Symposium*. 2022-SLP-142(47), 1-6. (松浦瑠希, 鈴木駿吾, 佐伯真於, 藤江真也, 小川哲司, 松山洋一. (2022). 対話特徴を用いた第二言語発話の流暢性自動採点. *音学シンポジウム*. 2022-SLP-142(47), 1-6.)

Matsuura, R., Suzuki, S., Saeki, M., Ogawa, T. and Matsuyama, Y. (2022). Automated scoring of L2 fluency based on detection of disfluency words and pause locations. *Proc. of the Acoustical Society of Japan (ASJ)*. 1351-1354. (松浦瑠希, 鈴木駿吾, 佐伯真於, 小川哲司, 松山洋一. (2022). 言い淀みとポーズ位置検出に基づく第二言語発話の流暢性自動採点. *日本音響学会研究発表会講演論文集*. pp.1351-1354.)

Saeki, M., Matsuura, R., Suzuki, S., Miyagi, K., Kobayashi, T., Matsuyama, Y. (2021). IntelLLA: A Speaking Proficiency Assessment Conversational Agent with Adaptive Interview Strategy. *Papers of the special interest group on Spoken Language Understanding and Dialogue processing (SIG-SLUD)*. 93, 15-20. (佐伯真於, 松浦瑠希, 鈴木駿吾, 宮城琴佳, 小林哲則, 松山洋一. (2021). IntelLLA: 適応的な質問戦略を有するスピーキング能力判定会話エージェント. *人工知能学会研究会資料 言語・音声理解と対話処理研究会*. 93 巻, 15-20.) (**The Japanese Society of Artificial Intelligence Incentive Award**)

## PRESENTATION

### Invited Talks

Suzuki, S., Saeki, M., & Matsuura, R. (2023, June). Pedagogical potential of multimodal conversational AI for foreign language learning and assessment. Paper presented at Korean PhD students and researchers in the UK (KRUK) (Zoom).

Suzuki, S., Saeki, M., & Matsuura, R. (2022, July). Development of Online Language Learning Assistant AI System that Grows with Humans. *International Collaborative Practice S V: Computer-Assisted Language Learning*, University of Tokyo.

Suzuki, S. & Matsuura, R. (2022, February). L2 oral fluency: From the construct definition to automated scoring. *Applied Linguistics Research Circle Weekly Talk*, University of Reading (Zoom).

### Refereed Paper and Poster Presentations

Matsuura, R., Suzuki, S., Eguchi, M., Saeki, M. and Matsuyama, Y. (2024, August). Which Lexical Errors Trigger Recasts? Differential Effects of the Rhetorical Role on Dialogic Comprehensibility. *AILA*. Kuala Lumpur, Malaysia.

Suzuki, S., Takatsu, H., Matsuura, R., Saeki, M., Arai, Y. and Matsuyama, Y. (2024, July). You may say this better: Consequential validity evidence for diagnostic speaking assessment on lexical use. *LTRC*. Innsbruck, Austria.

Sawaki, Y., Arai, Y., Eguchi, M., Matsuura, R., Suzuki, S., & Matsuyama, Y. (2024, July). Building an argument for test score interpretation and use for a fully automated online assessment of L2 spoken interaction. *LTRC*. Innsbruck, Austria.

Suzuki, S., Matsuura, R., Inada, Y., Saeki, M. and Matsuyama, Y. (2023, July). What temporal and dialogic features distinguished between second language oral proficiency levels? The case of oral proficiency interview. *AILA*. Lyon, France.

Matsuura, R. and Suzuki, S. (2023, July). Prompt-independent Automated Scoring of L2 Oral Fluency by Capturing Prompt Effects. *AIED*. Tokyo, Japan.

Matsuura, R. (2023, June). Developing and validating automatic annotation system of silent pause locations and disfluency words. *LTRC*. New York City, USA.

Matsuyama, Y., Suzuki, S., Saeki, M., Takatsu, H., Matsuura, R., and Arai, Y. (2023, June). Towards an explainable automated scoring of spoken interaction with a conversational AI agent. In J. Eunice, & Y. Sawaki. (Convenors), *Technology in Diagnostic and Formative Language Assessment: Friend or Foe? LTRC*. New York City, USA.

Matsuura, R., Suzuki, S., Saeki, M., Ogawa, T. and Matsuyama, Y. (2022, November). Refinement of Utterance Fluency Feature Extraction and Automated Scoring of L2 Oral Fluency with Dialogic Features. *APSIPA ASC*. Chiang-Mai, Thailand.

Suzuki, S., Matsuura, R., Saeki, M. and Matsuyama, Y. (2022, August). How is dialogic fluency different from monologic fluency? The case of oral proficiency interview. *TBLT*. Innsbruck, Austria.

Suzuki, S., Matsuura, R., Saeki, M., & Matsuyama, Y. (2022, August). What temporal features distinguish between second language oral proficiency levels? The case of Japanese learners of English. Accepted for presentation at the 31st annual conference of the European Second Language Association (EUROSLA), Fribourg, Switzerland.

Suzuki, S., Matsuura, R., Saeki, M. and Matsuyama, Y. (2022, March). Revisiting the assessment potential of read-aloud speech performance: Cognitive validity and predictive validity. *LTRC*. Tokyo, Japan.

### **Non-Refereed Paper and Poster Presentations**

Matsuura, R., Suzuki, S., Saeki, M., Ogawa, T. and Matsuyama, Y. (2022, March). Automated scoring of L2 fluency based on detection of disfluency words and pause locations. *Spring Meeting of ASJ*. (松浦瑠希, 鈴木駿吾, 佐伯真於, 小川哲司, 松山洋一. (2022, March). 言い淀みとポーズ位置検出に基づく第二言語発話の流暢性自動採点. 日本音響学会研究発表会). Tokyo, Japan. (**Student Presentation Award**).

Matsuura, R., Suzuki, S., Saeki, M., Fujie, S., Ogawa, T. and Matsuyama, Y. (2022, June). Automated Scoring of L2 Oral Fluency Using Dialogic Features. *Sound Symposium*. (松浦瑠希, 鈴木駿吾, 佐伯真於, 藤江真也, 小川哲司, 松山洋一. (2022, June). 対話特徴を用いた第二言語発話の流暢性自動採点. 音学シンポジウム). Tokyo, Japan. (**Sponsorship Award**).

Matsuura, R. and Suzuki, S. (2022, December). Automated Scoring of L2 Oral Fluency Based on Speech Production Model. *Conference of Transdisciplinary Federation of Science and Technology (traFST)*. (松浦瑠希, 鈴木駿吾. (2022, December). 発話産出モデルに基づく第二言語発話の流暢性自動採点. 横幹連合コンファレンス). Tokyo, Japan.

Matsuura, R. (2023, October). Automated Scoring of L2 Oral Fluency in Dialogue: Refining of Fluency Feature Extraction & Incorporating Dialogic Features. *International Workshop of Speech assessment and native and non-native linguistic variation: trends and methods*.

## **TEACHING EXPERIENCE**

September 2022 – March 2023:

*Teaching assistant*, Department of Fundamental Science and Engineering, Waseda University, Japan.

- Tutored 1<sup>st</sup> year students in C programming

April 2023 – August 2023: *Teaching assistant*, School of International Liberal Studies, Waseda University, Japan

- Tutored 1<sup>st</sup> year students in introductory Statistics

## **SCHOLARSHIPS**

April 2022 – March 2024: *JPC Scholarship Foundation* (JPC 奨学財団).

- Amount awarded: JPY 720,000 (approx. USD 5,100).

April 2022 – March 2023: *Azusa Ono Memorial Scholarship*.

- Amount awarded: JPY 400,000 (approx. USD 2,840).

April 2024 – March 2027:

*Japan Society for the Promotion of Science Doctoral Course (DC) Research Fellowship*.

- Amount awarded: JPY 7,200,000 (approx. USD 51,000).

- I declined the fellowship because I started a Ph.D. program outside Japan.

August 2024 – May 2028 (expected):

*Dick Tucker SLA Fellowship*

- Amount awarded: (USD 2,500 per month).

## **WORK EXPERIENCE**

November 2018 – June 2019: *Product research & event organization intern*, SAMI Japan Inc., Russia

- Research of Russian IT ecosystem

- Organization of Japan and Russian IT consulting event

March 2021 – March 2022: *Application development & product research intern*, Technosolution Co., Ltd., Japan

- Redesign of the official website using WordPress

- Development of login function for smartphone application using

Python

- Development and testing of AI image recognition web application using HTML, CSS, JavaScript and Python

- Research and planning of new services

August 2022 – August 2022: *Application development intern*, ELECS Inc., Japan

- Development of smartphone application using JavaScript

January 2022 – April 2022: *Research intern*, Poetics Inc., Japan

- Research of laughter detection

July 2022 – March 2023: *Research intern*, Equmenopolis Inc., Japan

- Research of automated L2 speech scoring and diagnosis (expected to apply for patent)

- Research of education related data logging for realization of GIGA School Program (commissioned work by Japan Digital Agency)

April 2023 – in progress: *Research intern*, ALT-BRIDGE TECHNOLOGY Inc., Japan

- Research of chatbot to encourage continuous learning in MOOCs (commissioned work by JMOOC)